

# REPORT ON BOILERS.

No. 1691

Received at London Office

25 NOV 1929

Survey held at 19th Oct. 1929 When rounded in at Local Office 19th Oct. 1929 Port of NAGASAKI.

Survey held at NAGASAKI. Date, First Survey 13th Sept. 1928 Last Survey 30th Sept. 1929.

556 on the Steel Quadruple Sc. Motor Vessel "A S A M A M A R U". (Number of visits 13.) Gross 16,946.98 Tons Net 10,018.12

Built at Nagasaki. By whom built Mitsubishi Zosen Kaisha No. 450 When built 1929.

Engines made at Winterthur, Switzerland By whom made Sulzer Bros. Engine No. 5845 When made 1929.

Boilers made at Nagasaki. By whom made Mitsubishi Zosen Kaisha, Ltd. Boiler No. 450. When made 1928.

Original Horse Power 4008 (4 Engines) Owners Nippon Yusen Kabushiki Kaisha. Port belonging to Tokio.

## MULTITUBULAR BOILERS - MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Mannesmannrohrenwerke, of Huckingen., Calderbank Stl Wks. (Letter for Record (s).)

Total Heating Surface of Boilers 2122.42 sq. ft. In forced draught fitted No. Coal or Oil fired Oil.

Kind and Description of Boilers Two- Single ended Multitubular type. Working Pressure 120 lbs.

Tested by hydraulic pressure to 230 lbs. Date of test 27-10-28. No. of Certificate 128. Can each boiler be worked separately Yes.

No. of Firebricks in each Boiler / No. and Description of safety valves to each boiler 2- Direct spring loaded.

Area of each set of valves per boiler per Rule 11.49 sq. in. Pressure to which they are adjusted 124 lbs Are they fitted with easing gear Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler Main boilers, not fitted.

Smallest distance between boilers or uptakes and bunkers or woodwork 3'-10" Is oil fuel carried in the double bottom under boilers Yes

Smallest distance between shell of boiler and tank top plating 21" Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 10'-0" Length 10'-6" Shell plates: Material Steel. Tensile strength 28-35 tons.

Thickness 11/16" Are the shell plates welded or flanged No. Description of riveting: circ. seams and D.R. lap.

g. seams D.R. D.B.S. Diameter of rivet holes in 15/16" Pitch of rivets 3 7/8"

Percentage of strength of circ. end seams plate 73.2 Percentage of strength of circ. intermediate seam plate /

Percentage of strength of longitudinal joint plate 75.8 Working pressure of shell by Rules 128.5 lbs sq. in.

Thickness of butt straps 7/16" No. and Description of Furnaces in each Boiler Two- Morrison's Suspension bulb.

Material Steel. Tensile strength 26-30 tons sq. in. Smallest outside diameter 34 7/8"

Length of plain part / Thickness of plates 7/16" Description of longitudinal joint Welded.

Dimensions of stiffening rings on furnace or c.c. bottom / Working pressure of furnace by Rules 179 lbs sq. in.

End plates in steam space: Material Steel. Tensile strength 26-30 tons. Thickness 13/16" Pitch of stays 15"x14 1/2"

Are stays secured Double nuts and washers. Working pressure by Rules 138 lbs sq. in.

End plates: Material Steel. Tensile strength 26-30 tons. Thickness 11/16"

Can pitch of stay tubes in nests 8 3/8" Pitch across wide water spaces 13 1/2" Working pressure 139.2 W.W.S.

Orders to combustion chamber tops: Material Steel. Tensile strength 28-35 tons sq. in. Depth and thickness of girder

Centre Two- 7" x 1/2" Length as per Rule 29 1/8" Distance apart 7 1/2" No. and pitch of stays

each Two- 9" Working pressure by Rules 132 lbs sq. in. Combustion chamber plates: Material Steel.

Tensile strength 26-30 tons. Thickness: Sides 9/16" Back 5/8" Top 9/16" Bottom 9/16"

Pitch of stays to ditto: Sides 7 1/2"x 9 1/2" Back 10"x 10" Top 7 1/2"x 9" Are stays fitted with nuts or riveted over Nuts in

Working pressure by Rules 150.1 sides. Front plate at bottom: Material Steel. Tensile strength 26-30 tons sq. in.

Thickness 11/16" Lower back plate: Material Steel. Tensile strength 26-30 tons. Thickness 11/16"

Pitch of stays at wide water space 13 1/2" x 10" Are stays fitted with nuts or riveted over Nuts.

Working Pressure 137.5 lbs. Main stays: Material Steel. Tensile strength 28-35 tons.

At half of stay 2 1/2" No. of threads per inch 6 Area supported by each stay 203 sq. in.

Working pressure by Rules 129 lbs sq. in. Screw stays: Material Steel. Tensile strength 26-30 tons.

At half of stay 1 1/2" No. of threads per inch 9 Area supported by each stay 70.3 sides 48



Working pressure by Rules 144 lbs. side. Are the stays drilled at the outer ends No. Margin stays: Diameter 1 5/8"  
152.2 lbs back.  
 No. of threads per inch 9 Area supported by each stay 116.25 sq. in. Working pressure by Rules 131 lbs.  
 Tubes: Material Steel. External diameter 3" Thickness 10 L.S.G. No. of threads per inch 9  
 Pitch of tubes 4 1/2" x 4 1/2" Working pressure by Rules Manhole compensation: Size of opening in  
 shell plate 16" x 12" Section of compensating ring 2 x 7" x 11/16" No. of rivets and diameter of rivet holes 32 - 15/16"  
 Outer row rivet pitch at ends Depth of flange if manhole flanged Steam Dome: Material /  
 Tensile strength / Thickness of shell / Description of longitudinal joint /  
 Diameter of rivet holes / Pitch of rivets / Percentage of strength of joint Plate  
 Internal diameter / Working pressure by Rules / Thickness of crown / No. and diameter of  
 stays / Inner radius of crown / Working pressure by Rules /  
 How connected to shell / Size of doubling plate under dome / Diameter of rivet holes and pitch  
 of rivets in outer row in dome connection to shell /

Type of Superheater / Manufacturers of / Tubes /  
 Number of elements / Material of tubes / Steel castings /  
 Material of headers / Tensile strength / Thickness / Can the superheater be shut off and  
 the boiler be worked separately / Is a safety valve fitted to every part of the superheater which can be shut off from the boiler /  
 Area of each safety valve / Are the safety valves fitted with easing gear / Working pressure as per  
 Rules / Pressure to which the safety valves are adjusted / Hydraulic test pressure:  
 tubes / castings / and after assembly in place / Are drain cocks or valves fitted  
 to free the superheater from water where necessary /

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with Yes

The foregoing is a correct description,  
 NAGASAKI WORKS, LTD. (YOKOSHI ZUSEN KAISHA, LTD.)

S. Kawai Manufacturer.

Dates of Survey / During progress of work in shops See Machinery Report. Are the approved plans of boiler and superheater forwarded herewith Yes.  
 while building / During erection on board vessel / (If not state date of approval.)  
 Total No. of visits /

### GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

The materials and workmanship are good.

The boilers have been constructed under special survey in accordance with the Rules and approved plan, satisfactorily fitted in the vessel and safety valves adjusted under steam as above.

Survey Fee See Machinery When applied for 100  
 Travelling Expenses (if any) Report. When received 100

George Anderson & K. Kishigami  
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute

FRI. 29 NOV 1929

TUE. 24 MAR 1931

Assigned

See Report attached